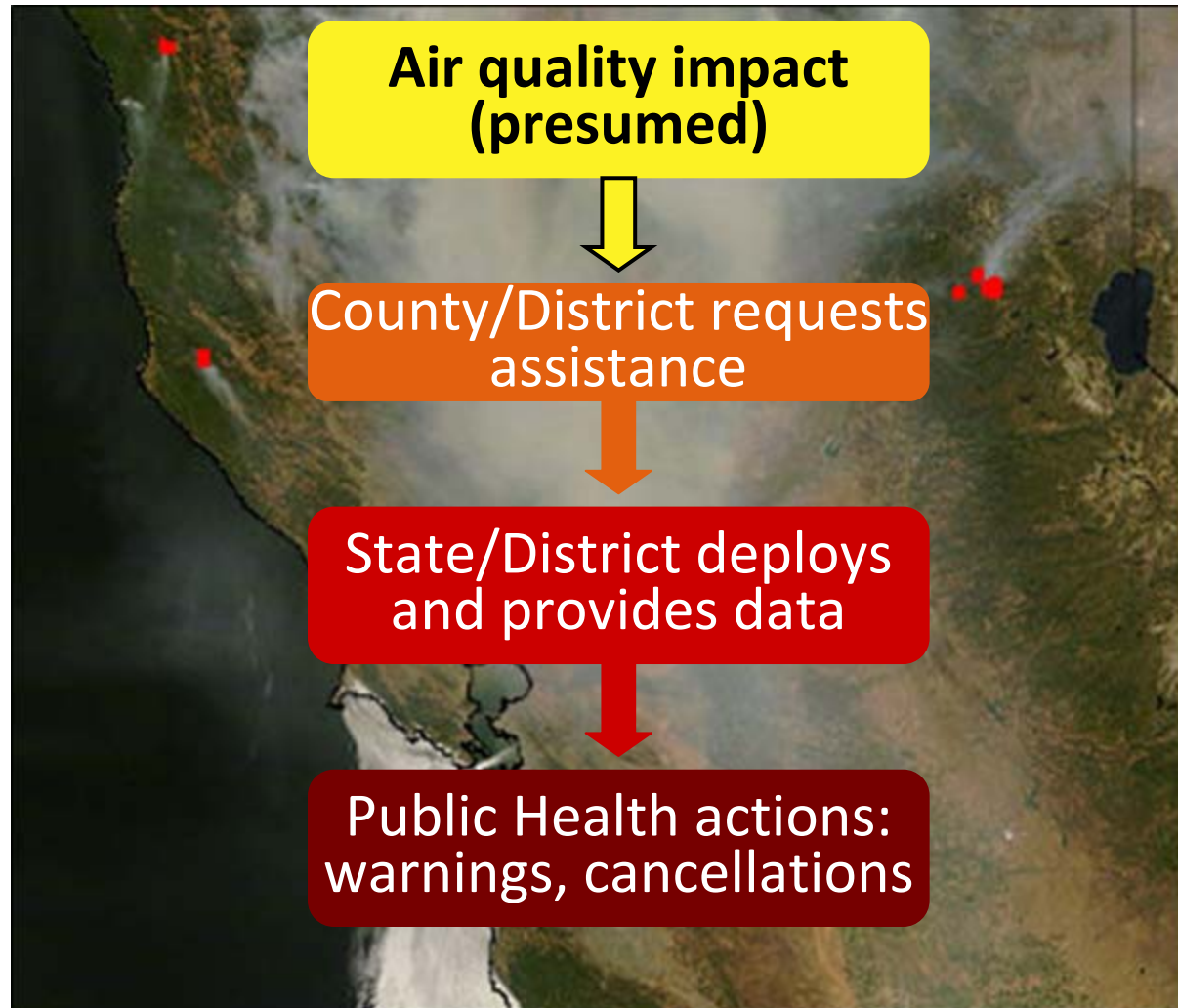




Particulate Monitoring in Emergencies: Health Metrics & Messaging

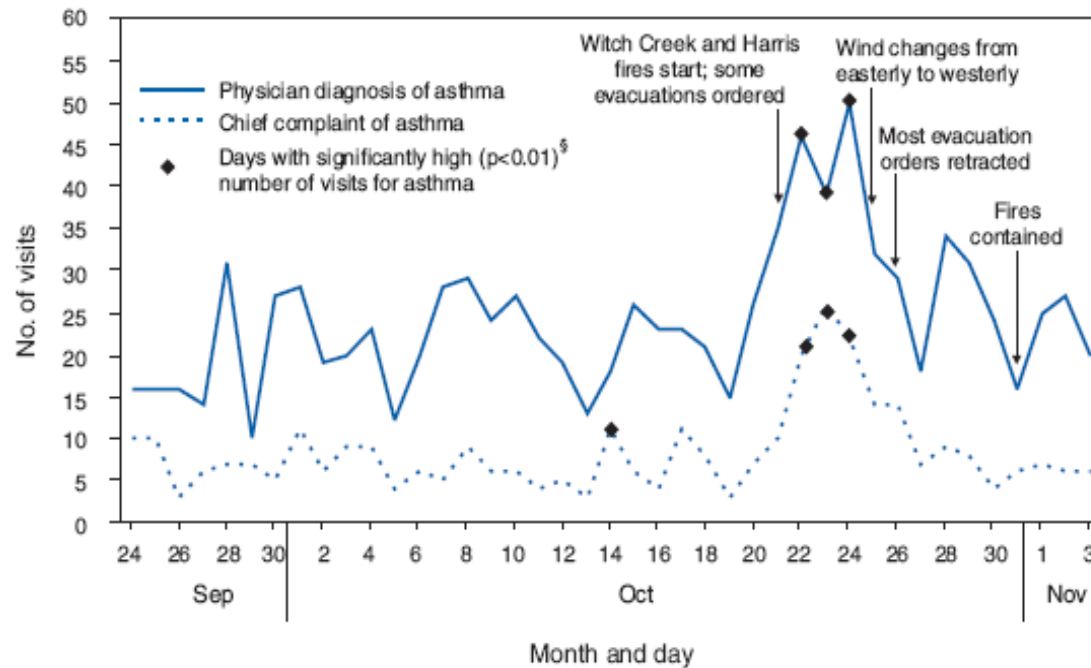


Data to Message



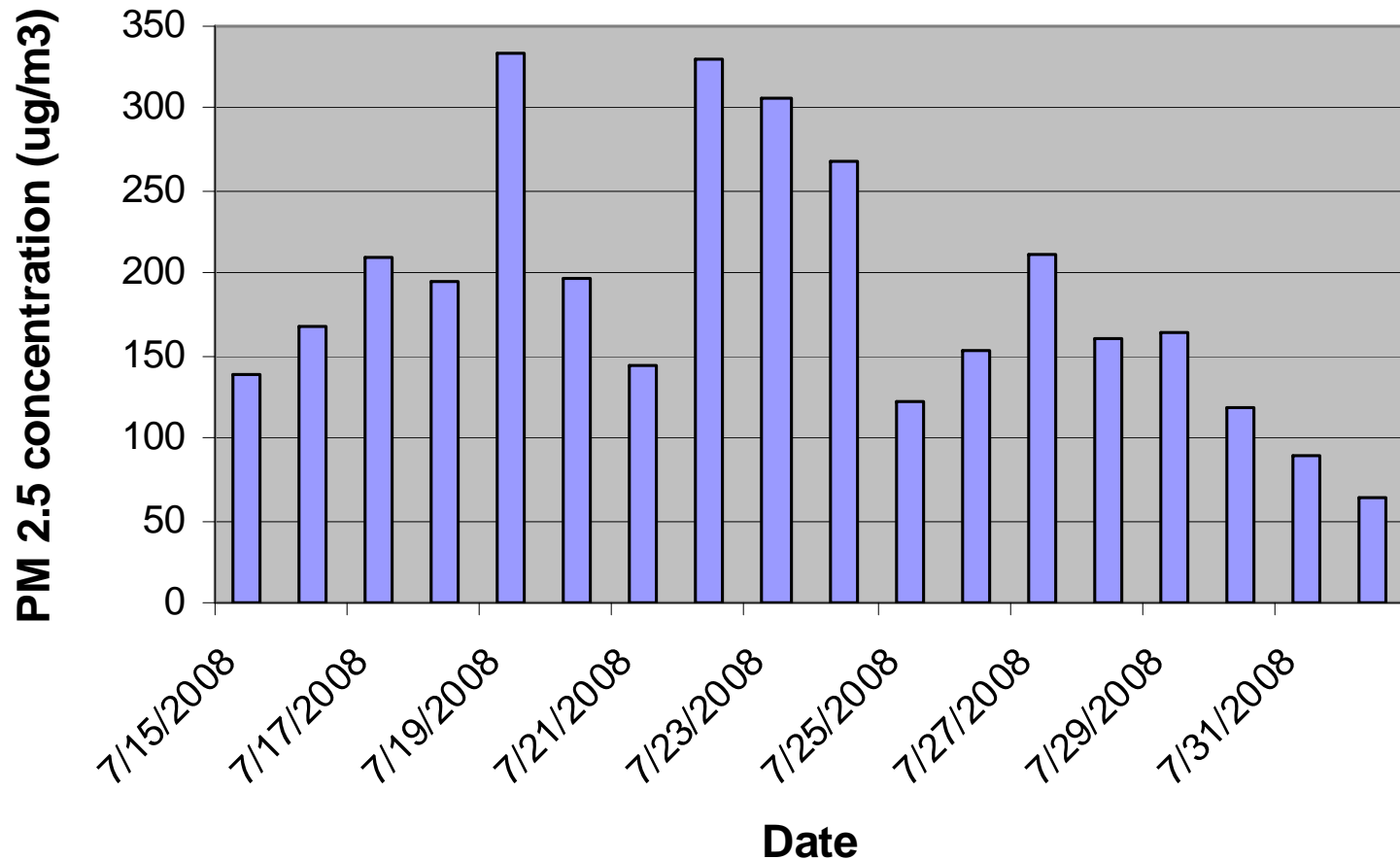
Wildfire Smoke Health Impact

FIGURE 2. Number of emergency department visits, by chief complaint* and diagnosis† of asthma — six hospitals, San Diego, California, September 22–November 17, 2007



Source: Centers for Disease Control, *Morbidity and Mortality Weekly Report*, July 11, 2008, 57(27);741-747.

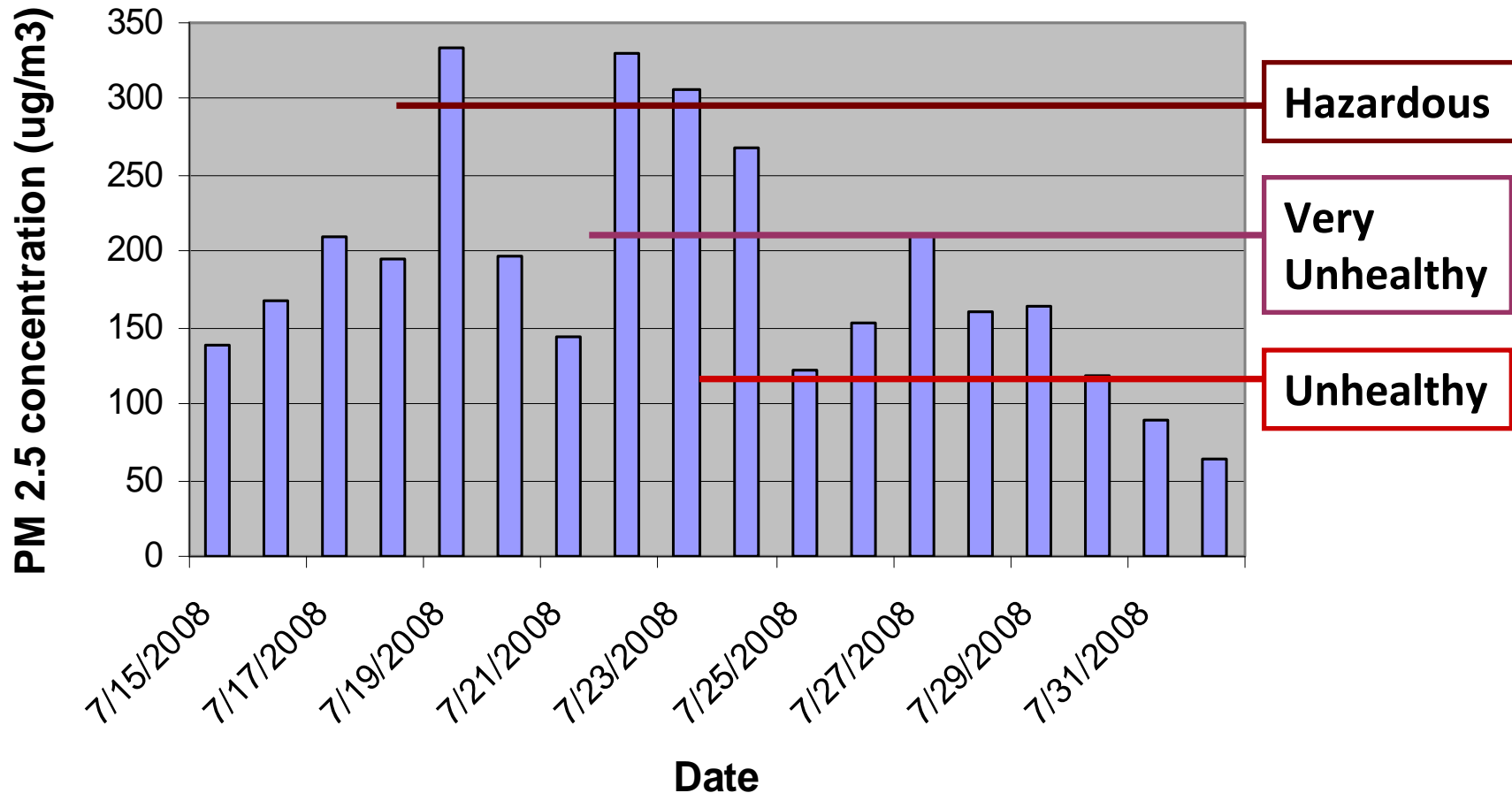
Trinity County air quality (24hr avg)



Wildfire Smoke Guide (Rev. 2008)

AQI Values	PM 2.5 (ug/m3; 24hr avg)	Health Effects
Good (0 to 50)	0-15	None expected
Moderate (51 to 100)	16-35	Possible aggravation of heart, lung disease
Unhealthy for Sensitive Groups (101 to 150)	36-65	Increased likelihood of respiratory or cardiac symptoms, especially in sensitive persons
Unhealthy (151 to 200)	66-150	Increased aggravation of CVD; premature mortality; general population respiratory effects
Very Unhealthy	151-250	Significant aggravation of heart, lung disease; premature mortality; significant respiratory effects
Hazardous	>250	Serious aggravation of heart, lung disease; premature mortality; serious respiratory effects

Trinity County air quality (24hr avg)



Actions based on AQ data



```
graph TD; A[Actions based on AQ data] --> B[Health officers, air districts issue warnings/cancellations]; A --> C[Local & tribal emergency declarations]; A --> D[Clean air shelters; portable HVACs]; A --> E[Distribute respirators and guidance];
```

The diagram is a flowchart with a central title box at the top, 'Actions based on AQ data', which is yellow-bordered. A vertical line descends from this box to a horizontal line. From this horizontal line, four vertical lines branch out to four separate boxes below. Each box has a different colored border: yellow, orange, red, and dark red. The text inside each box describes a specific action taken based on air quality data.

Health officers,
air districts
issue warnings/
cancellations

**Local & tribal
emergency
declarations**

**Clean air
shelters;
portable
HVACs**

**Distribute
respirators
and guidance**

Public Health Actions

Protect Your Lungs from Wildfire Smoke



N95 respirators can help protect your lungs from wildfire smoke. Straps must go above and below the ears.

Wildfire smoke can irritate your eyes, nose, throat and lungs. It can make you cough and wheeze, and can make it hard to breathe. If you have asthma or another lung disease, or heart disease, inhaling wildfire smoke can be especially harmful.

If you cannot **leave** the smoky area, good ways to protect your lungs from wildfire smoke include staying indoors and reducing physical activity. Wearing a special mask called a “**particulate respirator**” can also help protect your lungs from wildfire smoke.

How to Choose the Correct Mask to Protect Your Lungs

- Choose a mask called a “**particulate respirator**” that has the word “**NIOSH**” and either “**N95**” or “**P100**” printed on it. These are sold at many hardware and home repair stores and pharmacies.
- Choose a mask that has **two straps** that go around your head. **DO NOT** choose a mask with only one strap or with straps that just hook over the ears.
- Choose a size that will fit over your nose and under your chin. It should seal tightly to your face. These masks do not come in sizes that fit young children.

Air Quality Alerts

North Coast Unified Air Quality
Management District
2300 Myrtle Avenue, Eureka, CA 95501
Telephone (707) 443-3093 FAX (707) 443-3099
<http://www.ncuqamd.org>



Hazardous Conditions Air Quality Alert Issued 7-23-08 4:00 PM

For the following areas:

Trinity County: Hayfork, Hyampom & Weaverville

Smoke Levels in these areas has been classified as **HAZARDOUS**. Smoke in these areas is creating a health hazard. People are recommended to avoid any outdoor activity.

If you have symptoms that may be related to excess smoke exposure, including repeated coughing, shortness of breath or difficulty breathing, wheezing, chest tightness or pain, palpitations, nausea or unusual fatigue or lightheadedness, contact your health care provider immediately.

Recommendations for limiting smoke exposure:

- Stay in a "clean room" at home. A clean room is a room where there are no indoor sources of smoke or particle sources, an air cleaner is used, and/or an air conditioner is used in re-circulate mode.
- Keep doors and windows sealed at much as possible. Take precautions against Heat Stroke.
- Avoid using exhaust fans (kitchen, bathroom, etc) as they draw smoke from the outside into your home.
- Keep the garage-to-home door closed.
- If you use an air conditioner, use it in re-circulate mode.
- Avoid other sources of pollutants, such as tobacco smoke, frying or broiling foods, burning candles, vacuuming, using paints, solvents, cleaning products and adhesives.
- Use groceries that don't require cooking.
- When smoke conditions improve, air out your house.

For 24-hour Air Quality Advisory Information, call toll-free at (866) 287-6329 and press (5) on your touch tone phone. For additional local information, please visit the North Coast Unified Air Quality Management District's Website at www.ncuqamd.org. Please visit the CAPCOA website at www.airquality.org/smokeimpact for additional health information.

NORTH COAST UNIFIED AIR QUALITY MANAGEMENT DISTRICT (707) 443-3093

State Emergency Proclamation



Office of the Governor

ARNOLD SCHWARZENEGGER
THE PEOPLE'S GOVERNOR

"WHEREAS the wildfires in Humboldt County and throughout California have generated unprecedented smoke conditions, creating unhealthy air and posing a continuing danger to people; and

WHEREAS the Hoopa, Karuk, and Yurok Tribal Nations have declared local emergencies for their reservations in and near Humboldt County as a result of the fires and the unhealthy air caused by the fires and smoke; and

...

NOW, THEREFORE, I, Arnold Schwarzenegger, Governor of the State of California, in accordance with the authority vested in me by the state Constitution and statutes, including the California Emergency Services Act, and in particular, section 8625 of the California Government Code,
HEREBY PROCLAIM A STATE OF EMERGENCY to exist within the County of Humboldt.

Working with the Media



Community will judge
credibility, empathy,
competence, honesty

**Highest credibility:
health professionals
first responders
teachers**

**First 30 seconds of
message is crucial**

Message Mapping

- A tool to **clarify** and **simplify** message
- 3 key messages (10 words, 30 sec)
- 3 supporting statements

Credit: Vincent T. Covello, PhD, Director of the Center for Risk Communication

Anatomy of a Message Map

Key Message 1	Key Message 2	Key Message 3
Supporting Fact 1-1	Supporting Fact 2-1	Supporting Fact 3-1

Tell the truth. Be transparent.

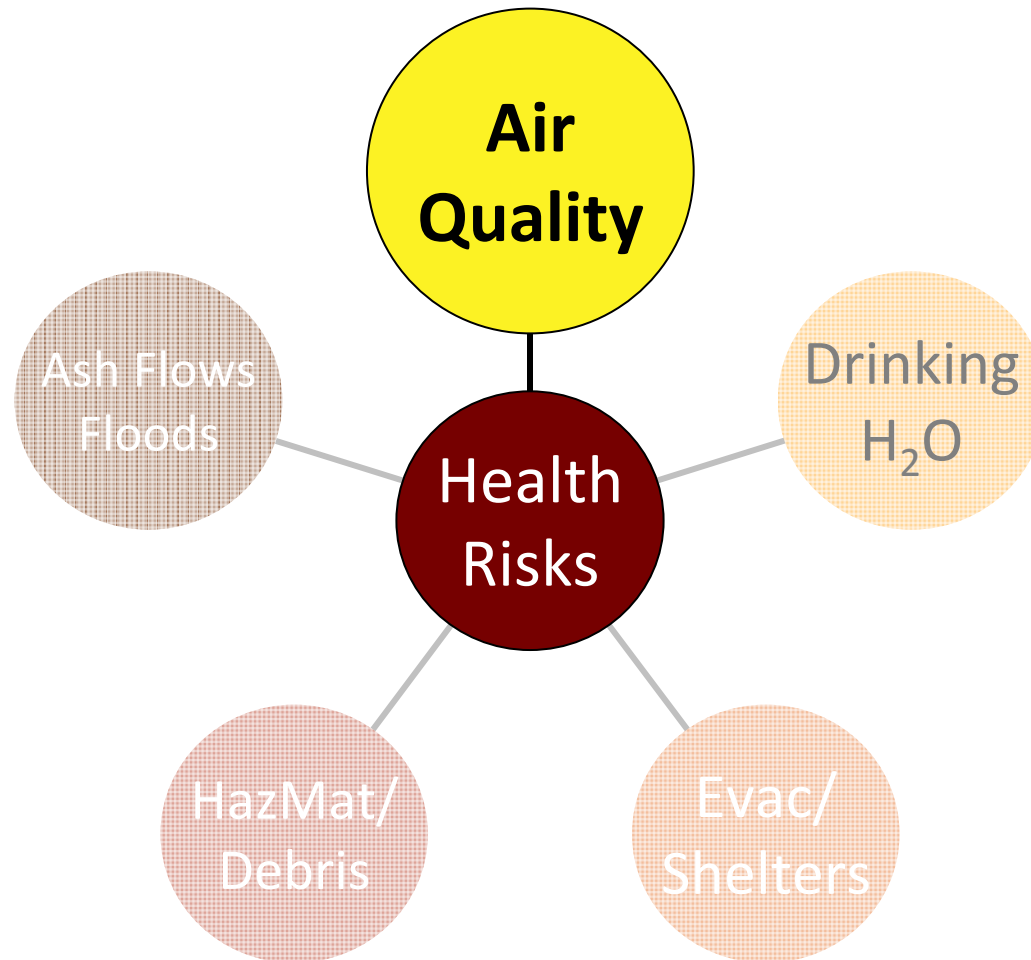
State conclusion first, then supporting data

Key Message

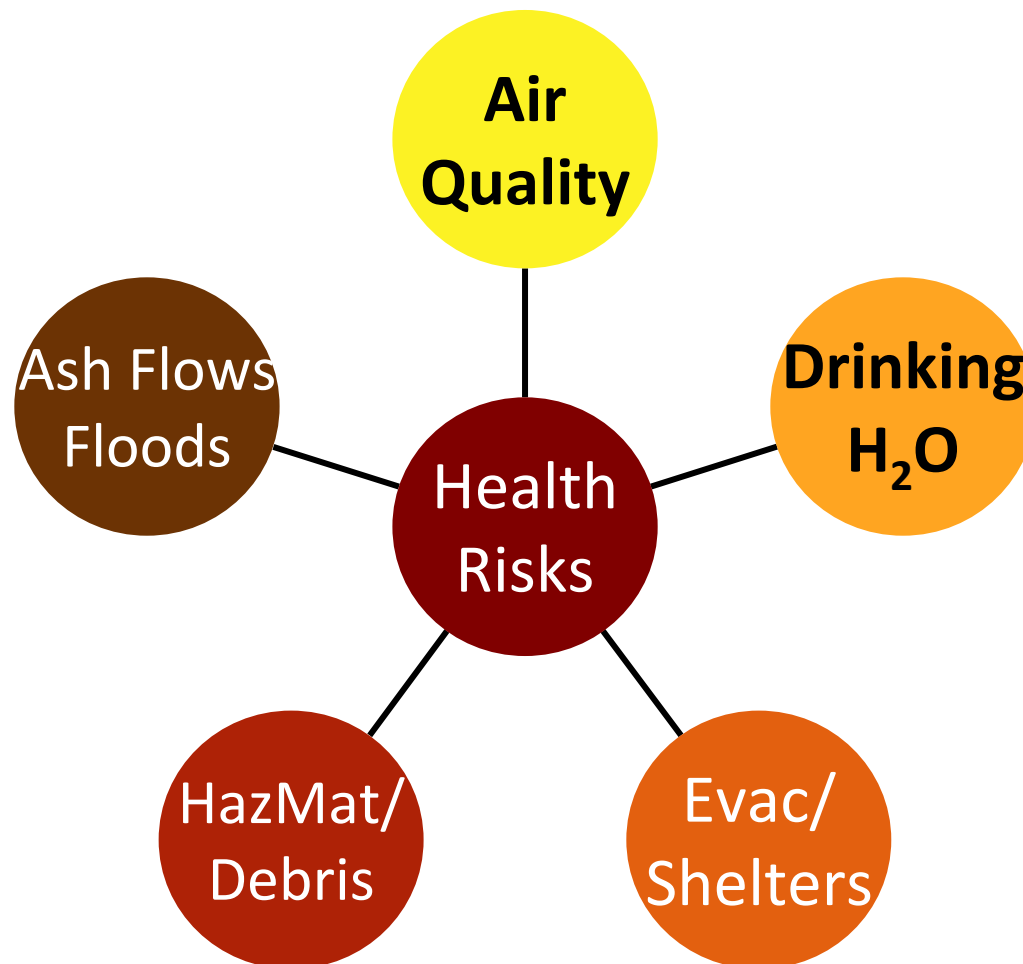
Share dilemmas and empathize

Embody your agency's identity

Public Health Issues with Wildfires



Public Health Issues with Wildfires



Final Points

- ✓ Wildfire Smoke Guide
- ✓ Sharing data - www.airnow.gov
- ✓ Get to know partners before an emergency
- ✓ Strive for consistency in public health actions and messages across jurisdictions
- ✓ Don't wait for the public to come to you